



## Filing Receipt

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**PROJECT NO. 52373**

**REVIEW OF WHOLESALE ELECTRIC  
MARKET DESIGN**

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**PUBLIC UTILITY COMMISSION  
OF TEXAS**

**COMMENTS OF EOLIAN  
REGARDING PROPOSED DISPATCHABLE PORTFOLIO STANDARD**

COMES NOW Eolian and files these comments in response to Commissioner McAdams' November 17, 2021, memorandum proposing the Commission establish a Dispatchable Portfolio Standard (DPS). Eolian appreciates Commission McAdams' leadership on this issue and expects that an appropriately structured and targeted DPS would encourage the development of new dispatchable generation resources in ERCOT that would directly improve reliability of the grid throughout the year as well as during extreme heat and extreme cold weather conditions and during times of low non-dispatchable power production in the region. A DPS avoids a dramatic restructuring of the ERCOT competitive energy market and protects retail consumers in the ERCOT region from significant cost impacts.

**INTRODUCTION**

Eolian, formed in late 2020 from assets formerly owned and managed by MAP Energy, LLC, has invested more than \$500 million of equity in the development of electricity generation in Texas, which has resulted in \$7 billion of direct capital investment in the state. Eolian owns and operates one of the largest standalone energy storage resources participating in the ERCOT power market today, with another 200 MW of standalone energy storage under construction across two sites in south Texas. Eolian's founders, while at MAP Energy, managed a portfolio of Texas mineral interests with a value in excess of \$1 billion. Eolian is owned by its employees and funds managed by Global Infrastructure Partners (GIP).

## COMMENTS

On November 4, 2021, the PUCT came to a consensus that no current stakeholder proposal guarantees new immediate direct investment in dispatchable generation. Commissioner McAdams' DEC Proposal is compelling because it addresses two critical reliability needs for the ERCOT grid, (1) ramping requirements and (2) tight reserve margins on "grey-sky" days, while keeping costs low for consumers through its self-regulating market mechanism:

1. Growing Volatility and Ramping Requirements: DEC-compliant generation addresses ERCOT's forecasted need for daily ramping requirements of higher magnitude and shorter duration than has historically been seen in the market as specified in their recent Net Load Ramping Analysis.<sup>1</sup> Eolian anticipates that by 2023, the average required hourly system ramping from dispatchable generation (in MW units) will be 40% higher than under current conditions, and some hours will require ramps of dispatchable generation of +/- 60% or more hour-over-hour.<sup>2</sup> Furthermore, our analysis shows that 90% of these ramps will be for 2 hours or less. The percentage of ramps of 2-6 hours duration will remain unchanged relative to 2019 renewable penetration due to the increasing geographic diversity of solar generation locations.
2. "Grey Sky" Days & Dispatchable Generation in the Face of Growing Load: DEC-compliant generation can provide reliability on days when high levels of existing thermal generation are experiencing forced or unforced outages and low volumes of renewable generation

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<sup>1</sup> ERCOT Staff, Impact of Growth in Wind and Solar on Net Load, Presentation to Wholesale Market Working Group on October 25, 2021 (available at [http://www.ercot.com/content/wcm/key\\_documents\\_lists/221315/NetLoad\\_Ramping\\_Analysis\\_v2\\_WMWG.pptx](http://www.ercot.com/content/wcm/key_documents_lists/221315/NetLoad_Ramping_Analysis_v2_WMWG.pptx))

<sup>2</sup> See Comments of Eolian at 7-10 (Nov. 1, 2021).

are on the system. In the last six months, ERCOT has endured multiple scarcity events due to these conditions which mirror the reserve capacity risk scenarios outlined in ERCOT's September 3, 2021, Fall SARA report. For example, a transformer fire in June 2021 at Comanche Peak coincided with unseasonably high temperatures resulting in tight reserve margins. Similarly, in mid-October 2021, many thermal plants took simultaneous outages after ensuring availability all summer, again coinciding with warm temperatures and low wind production. Increases in geographically-diverse solar generation already in construction will help alleviate these conditions, but the statistical probability of "grey sky" days will still exist in limited events.

To meet these challenges, ERCOT needs a clear market signal and revenue incentive to encourage the construction of new dispatchable, fast-ramping resources that only exist in extremely limited quantities on the system today. These resources can provide firming and strategic reliability services to address variability of both predictable energy ramps and unexpected changes in generation or load conditions. The best resources for these services today are fast-ramping thermal generators and energy storage resources such as multi-hour batteries. The Dispatchable Energy Credit (DEC) proposal, based on Texas' successful Renewable Energy Credit (REC) program, creates a market-based incentive that rewards dispatchable resource participation in the energy market.

It should be noted that the DEC Proposal is purposefully *not* intended to address multi-day enhanced reliability ("Break the Glass Resource") back-up generation for extreme prolonged physical scarcity events where generation units are under forced outages and unable to recover or where insufficient fuel supply is available. There are multiple potential solutions for back up

generation that can be evaluated, however reserve products that are rarely used will inherently have a high system carrying cost for consumers. Any actions taken toward this type of proposal should consider how the combination of new weatherization mandates, updates to the ORDC curve, GWs of geographically-diverse solar resources entering the system, and additional transmission from regions of Texas less impacted by winter events already mitigate these concerns. A technology-agnostic multi-day enhanced reliability program therefore should be addressed separately from the DEC Proposal.

The focus on providing a dispatchable generation solution through a transparent, tried-and-true market mechanism is also a key differentiation between the DEC Proposal and other solutions recently offered to the PUCT. Unlike those proposals that lock in fixed payments, either in \$/kW-month or \$/MWh, the DEC Proposal replicates the successful Renewable Energy Credit program designed and already functioning in Texas, and that has proven to enable vigorous market competition to supply the market attributes targeted under the program. Those other proposals recently submitted are in fact replicating the Federal Production Tax Credit, and do not self-adjust based on market supply and demand – thereby denying consumers of the benefits of market competition and actually replicating the market distortion impacts on bidding behavior that have been seen as a result of the structure of the Federal PTC.

### **The Texas Renewable Energy Credit Program**

Texas' 1999 retail competition statute included the nation's first Renewable Energy Credit (REC) program, designed to increase low-cost renewable generation in state and meet the state's Renewable Portfolio Standard (RPS). A REC is produced when a renewable energy source

generates one MWh of electricity and represents the renewable characteristic of that energy. The renewable producer can sell both the commodity MWh and the associated RECs – with each REC having a unique recorded certificate number for tracking purposes.

Every retail entity in Texas (namely munis, coops, retail electric providers, and non-ERCOT utilities) is obligated to buy and retire RECs each year in proportion to its retail electric sales (“load-ratio share”), with certain exceptions incorporated over time. RECs are sold in an open market so that REC prices rise if too little renewable energy is available and fall when there is plenty of renewable generation on the grid. If a retail entity fails to buy its full REC requirement, it is charged a regulated, above-market Alternate Compliance Price (ACP) for the rest of its REC requirement.

The REC program created a rush of investment and pushed REC costs down to very low levels within a couple of years. Although Texas surpassed its official 10,000 MW RPS goal in 2008, the REC program remains in place as a way for retail customers to track and document their renewable energy usage. The Texas REC program has seen no market power or abuse problems.

## **DEC Qualification**

One tradable Dispatchable Energy Credit (DEC) would be created for each MWh that a qualified DEC Producer clears as generation in the ancillary services market<sup>3</sup>, the day-ahead

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<sup>3</sup> Eolian recommends that the ancillary service markets that a DSP must clear to be awarded DEC's should be limited to Responsive Reserve Service (RRS), ERCOT Contingency Reserve Service (once implemented) (ECRS), and Online Non-Spin Reserve Service (NSRS). These services require a cleared resource to be ready on short notice to provide reliability services to the grid rather than being deeper reserve products that are well suited to longer ramping resources.

energy market, or the real-time energy market. To meet ERCOT's specific reliability needs, Commissioner McAdams proposed that a qualifying DEC Producer must be to be able to "ramp to full nameplate capacity within 5 minutes or less and have a net facility specification heat rate less than or equal to 8,000 Btu/kWh, or a battery that can discharge for at least 2 hours" and "should only be interconnected at transmission voltage." Eolian supports these criteria for the following reasons and suggests an additional qualification - a maximum facility size of 1,000 MW.

1. **Ramping requirement of  $\leq 5$  minutes:** A ramp requirement from cold-start to the DEC Producer's full facility production capability within five minutes, with equally fast ramp-down and load-following capabilities would ensure the best performance for the system and for reliability – bringing technologies that can provide fast start, load follow, fast stop services and perform for an extended duration during extreme conditions. This technology is here today and available on the market. There are limited examples of recently built or under construction facilities in ERCOT that can comply – such as the Denton Energy Facility that was constructed in 2018 to address evolving operational conditions. Technology that can meet this requirement has the added benefit of being multi-fuel capable – ensuring that new facilities can adapt to changing fuel prices and the availability of new fuels in the future like hydrogen. Lastly, the purpose of the DEC program is to incentivize rapid deployment of new build investments onto the system. Creating a ramp qualification keyed on full facility nameplate minimizes existing generation that complies with the DEC qualification criteria and ensures that new investment focuses on the best performance for the system, as clearly identified by

ERCOT in their recent ramping study.<sup>4</sup> Given that the system is presently facing challenges in meeting demand during critical periods, new resources must be added. Thus, this ramping criteria is specifically designed to encourage deployment of state-of-the-art technology rather than provide additional financial support for existing generators that already are expected to benefit from other proposed market design changes that the Commission is considering, such as changes to the Operating Reserve Demand Curve (ORDC) and expanded use of NSRS that currently is being provided by existing generators.

2. **Heat Rate of  $\leq 8,000$  Btu/kWh**: This low heat rate qualification targets the latest innovations in efficiency, minimizes the impact of water usage, mitigates operational threats during extreme summer and winter temperatures, ensures new-build investment (rather than focusing on the existing fleet), and guarantees lower long term consumer costs.
  - **Low Water Consumption**: Facilities that can meet the ramping requirement and heat rate criteria do not require large volumes and bodies of water for cooling cycles. In drought years existing thermal plants have faced challenges when surface water supplies have dwindled. If conditions in Texas become drier, these new DEC resources will not exacerbate competition for increasingly scarce water resources.

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<sup>4</sup> ERCOT Staff, Impact of Growth in Wind and Solar on Net Load, Presentation to Wholesale Market Working Group on October 25, 2021 (available at [http://www.ercot.com/content/wcm/key\\_documents\\_lists/221315/NetLoad\\_Ramping\\_Analysis\\_v2\\_WMWG.pptx](http://www.ercot.com/content/wcm/key_documents_lists/221315/NetLoad_Ramping_Analysis_v2_WMWG.pptx))



- **Built-In Weatherization:** Because these facilities do not have large water requirements, they are not exposed to freezing surface water sources and pipes during extreme winter conditions nor high ambient water temperatures during prolonged heat waves in summer months. These plants are not at risk of having forced outages due to cooling water temperature issues during prolonged weather events.
- **Low Long Term Consumer Costs:** On “grey-sky” days when renewable resources are low and outages from existing thermal resources are prevalent, dispatchable generation may be required to run for an extended duration. At this efficient heat rate, dispatchable facilities will not be the marginal price setting units as compared to older thermal facilities. From a consumer standpoint regarding annual system energy costs, if the “grey sky” day occurs a few times a year, meeting this condition with new efficient dispatchable generation is *more* cost-effective for consumers than building CCGTs with a lower heat rate that are far less flexible on a daily basis and fail to meet the emerging daily dispatch needs.

It is critical that the DEC accreditation criteria for heat rates be described carefully, notably because real-world operational heat rates deviate significantly from Net Nameplate Facility Heat Rates. It is administratively easier to assess heat rate based on Net Facility Specification Heat Rate (LHV), as defined by the original equipment manufacturer and provided through their certified design specification sheet. Using the LHV heat rate as a criteria will enable the Commission to make a one-time determination that a facility qualifies to be a DEC Producer rather than having to make annual after-the-

fact determinations based on a variety of operating conditions. Technology with an 8,000 btu/kWh (LHV) is readily available on the market.

3. Storage  $\geq$  2-hour duration: Two plus hour duration ESRs matches proposed requirements for ECRS and ensures resource diversification.

- Consistent Market Signal: 2+ hour duration ESRs allow for deeper daily market participation and matches the market signal being considered across ECRS and the interconnection queue study process also put forward by Commissioner McAdams. ESRs that have less than 2 hours of useful duration could de-rate their nameplate to meet this requirement and then would receive DEC's only on the total derated MWh bid and cleared into the market. This criteria sends a clear market signal to developers and operators to invest in longer duration energy storage projects in order to meet ramping needs and ancillary market requirements.
- Resource Diversification: Commissioner McAdams noted the importance of resource diversification for Texas consumers "at a time when the fuel cost of natural gas is rising at a sustained and alarming rate." Energy Storage Resources are a form of fuel diversity for dispatchable generation by converting excess electricity production in low value hours into a dispatchable product that is not dependent on natural gas prices. Ensuring technology diversification creates the fastest and surest means of attracting the broadest pool of global capital sources to immediately invest in this market.

4. Interconnection Qualification: A requirement that DEC Producing facilities must be interconnected to the transmission network (69kV+) is a way to efficiently deliver new steel in the ground on the bulk power system. For ERCOT to manage the system reliably and cost effectively, it needs to have telemetry to DEC Producing generation to ensure optimal dispatch. Aggregated Distributed Generators can be considered in the future after they are able to participate on SCED once ERCOT has resolved scheduling, metering and verification issues.
5. Maximum Plant Size: An additional potential qualification not addressed in Commissioner McAdam's memo is placing an upper limit on the size of a DEC-compliant facility. The creation of the DPS is intended to ensure reliability across the total system and thus should not exacerbate an existing system risk – large single points of failure. This risk was evidenced in the ERCOT market in June of this year when the loss of large nuclear units led to difficult system conditions and a multi-day scarcity event. Meeting the DPS with a small number of large-scale facilities would introduce new risks into the market. A diverse number of smaller resources also has the added benefit of faster deployment of new generation.

These five qualifications offer the opportunity for market participants to deploy existing technologies into the market immediately *and* to find innovative and creative solutions, such as combining technologies, to address system needs in the most cost-effective manner. If these qualifications are expanded such that large volumes of existing resources become DEC-compliant, that would negate the purpose of the DEC Proposal and force REPs to give an unnecessary handout to existing generation. Another potential qualification that would further

emphasize the focus on encouraging new build generation would be to add a vintaging criteria set at a specified date such as January 1<sup>st</sup>, 2021.

### **How to Earn a DEC**

Commissioner McAdams' memorandum suggests that qualified facilities can earn DEC's by bidding and clearing in the ERCOT market any hour between 6:00 – 20:00 through ancillary services, the day-ahead market, or the real-time market. These requirements would benefit the ERCOT grid in several ways.

1. 6:00 – 20:00 On-Peak Hours: Limiting DEC's to on-peak hours prioritizes resource availability during critical hours when dispatchable fast-ramping facilities are needed on the system to meet high load conditions, morning/evening ramps and when the forced outages of thermal units at inopportune times creates scarcity on the system.
2. Pay for Performance: It is critical that DEC's are solely earned for cleared bids. If a participant is trying to avoid dispatching by submitting high bids that purposefully will not clear, then they should not receive a DEC.
3. Generation Only: The DPS is designed for new-build fast ramping generation resources consistent with the provisions and intent of Utilities Code Section 39.159 as enacted by SB 3, Section 18 during the last regular legislative session. DEC's are created by a commitment to deliver MWh onto the grid. As a result, Controllable Load Resources would not qualify for DEC accreditation, but they still can participate in other valuable products such as Non-Spin. For this same reason, when ESRs are bidding as a CLR and charging from the grid, they should not earn a DEC.

4. Included Markets: DEC's should be earned only for RRS, ECRS, Online Non-Spin, the DA Energy Market or the RT Energy Market. RRS, ECRS and Online Non-Spin are fast-responding ancillaries that ERCOT uses to maintain grid reliability. When AS market volumes are saturated due to new-build DEC-compliant generation, AS prices will drop and begin to push efficient dispatchable generation into DA/RT Energy. DEC's are not intended for "back-up" generation provided by Offline Non-Spin nor for instantaneous frequency control provided by Regulation. Typically, a resource bidding into Regulation provides bids for both Regulation Up and Regulation Down, so that as the services are alternately needed to keep frequency in check, ERCOT has relatively equal amounts of available resources on both sides of the dispatch. As Regulation Down is a form of charging for a battery, or is the reduction in output for a thermal unit, it does not meet the standard set for a DEC. In order to avoid any disturbance in the Regulation market due to generators only bidding into Regulation Up as a means of generating DEC's, for operational purposes it seems prudent to keep this small ancillary service out of the DEC-compliant markets.

#### **Dispatchable Portfolio Standard ("DPS")**

This market-based mechanism backed by specific volumetric compliance targets and an Alternative Compliance Payment ("ACP") penalty mechanism is a proven structure that has been replicated in many geographies since the original Texas REC program. It relies on three components:

1. **DPS Volumetric Requirements** that increase annually for every Retail Entity in ERCOT. As described in Commissioner McAdams' proposal, this could be set as an annual percentage of total ERCOT retail energy sales, "with each LSE required to procure a minimum amount of DEC equal to a share of system demand during key peak seasonal intervals from the prior year."
2. **Program Duration** specified at inception.
3. **ACP** values defined at inception for the duration of the program.

Commissioner McAdams' proposal is administratively simple in that ERCOT can retire DEC using similar mechanisms and processes as the REC compliance program, the PUCT can oversee facility accreditation and a market exchange clearinghouse could be introduced using a third-party, like ICE, so that DEC are procured on an open trading platform with complete transparency of all volumes and trades on offer at all times. If the DEC Trading program utilizes both an open platform as well as a 12-month rolling vintaging, then there is no opportunity for DEC market manipulation or hoarding.

### **Dispatchable Portfolio Standard ("DPS") Annual Volume**

Every Retail Entity in ERCOT (munis, coops & REPs) should have an annual volumetric requirement that is defined through a simple codified formula. Per Commissioner McAdams' proposal, total annual DEC volumes should be sized, at a minimum, to ensure rapid capacity deployment to meet a baseline 2% peak load growth. This amount is a conservative estimate of peak load growth in ERCOT given the state's robust economic expansion and will not cannibalize existing thermal generation.

Matching the DPS to 2% growth based on 2021 peak load requires 3 GW of DEC-compliant resources in 2023 and 9.6 GW by 2027. Running a simplified calculation which assumes 16 Hour cleared bids (hours 6 – 20) and a 96% availability across those hours results in DPS volumes (as a percentage of retail sales) of 4% in 2023 and 10% in 2027 provides the following results:

	2023	2024	2025	2026	2027
ERCOT Additional Peak Load From 2021 Baseline [MW]	2,990	4,529	6,100	7,702	9,336
DEC Volume Percentage of Retail Sales [%]	4.0%	5.5%	7.0%	8.5%	10.0%
DEC Requirement - Energy [MWh]	19,201,232	27,193,745	35,648,527	44,586,122	54,027,889
DEC-compliant facility capacity required [MW]	3,425	4,850	6,359	7,953	9,637

These volumes represent a balance between (a) an undersized DPS scenario where investors believe the market will be saturated too quickly for it to be worth their while to build new DEC-compliant generation and (b) an oversized scenario where consumers overpay for a product because the supply of DEC-compliant facilities can never meet the DPS demand curve and costs become unnecessarily high. The DPS should be set at a level that balances incentives to meet system needs while limiting incremental charges to retail customers. Additionally, by establishing a set program duration, the DEC Proposal provides a transitional bridge to ensure investment with a clear sunset horizon.

### **Alternative Compliance Payments (“ACP”)**

Similar to RECs, retail entities in the ERCOT region would be assigned a DEC obligation. If a REP or other retail entity does not buy its full DEC requirement each year, it would be charged the Alternate Compliance Payment (“ACP”) for remaining DEC requirements. The Commission, with ERCOT support, can set a multi-year forward schedule for DEC needs, ACP levels and retail entity purchase requirements for predictable future DEC costs and revenues. Given an option

between an escalating ACP that reaches a maximum prior to program sunset vs. a de-escalating ACP that attempts to create a race to install new-build as quickly as possible, we believe that an escalating approach is preferable for consumers. In this approach, consumers are more protected both in early years while the ACP is low and if new-build cannot meet DPS volumes and in later years when the market should correct with increasing supply driving costs far below the penalty cap.

### **ACP Application to AS Costs**

Commissioner McAdams' ACP mechanism provides an added benefit to consumers. If a retail entity does not purchase enough DEC-compliant generation to meet their DPS and must pay ACPs, this ACP revenue would be net against total ERCOT ancillary service charges to retail customers. A benefit of building DEC-compliant generation is that their participation in ancillary services will help mitigate cost increases in those markets even as the MW volumes are expanded. Conversely, if insufficient DEC-compliant generation is constructed and ancillary service prices rise then the ACPs are applied to offset these costs. The relationship between the DEC market price, the ACP and ancillary service prices is self-regulating.

### **DECs will Not Distort the Energy Market**

Many other stakeholder proposals put forth multi-year, fixed price incentives for generation – in some cases as a capacity payment unrelated to performance in the market. While we appreciate the value of a persistent price signal for financing parties and lenders, such a construct does not benefit from a competitive market for supply and can lead to significant



excessive procurement volumes and cost repercussions to consumers. This type of persistent fixed price signal construct functions in the same manner as the Federal Production Tax Credit for wind where payments are made for participation without market correcting mechanisms.

The DEC Trading program differs from PTCs and other fixed price proposals in two critical ways that mitigate any impact on overall energy price formation:

1. On Peak vs. Off Peak Targets: Wind PTC production is disproportionately during off-peak hours where wind hits penetration rates of 60-70% making it the price-setting unit for energy, with bid prices set below zero as a result of the PTC value. DEC's are targeting on-peak hours 6 - 20 where load is higher, renewable penetration is lower, and extreme price spikes and price scarcity events are occurring – and with thermal units at higher heat rates already setting prices. The maximum penetration rate (in MW) of DEC-compliant generation during peak hours is far below a volume and scale that would allow it to be the price-setting units being dispatched.
2. DECs are Priced By a Market: The PTC is a fixed price which allows PTC bidders to clear below their variable cost of production. Conversely, DEC's are based on a market price rather than a fixed price. If there are too few DEC-compliant generators on the system and the ACP is being paid, then there are not enough new dispatchable generators to impact overall price formation. If on the other hand there is an influx of DEC-compliant generators on the system, then DEC prices will be driven down to low levels. Compressed DEC prices as a result of vigorous market participation will mean that DEC's have little impact on bid prices coming from new dispatchable generators.

In summary, the size of the DEC program relative to peak load growth, the target deployment of DEC's for on-peak hours with future high volatility and heat rates, as well as the fact that DEC's are set at a market price mean that DEC's will not have the same impact to price formation as was seen with PTC's or would be seen in other fixed capacity payment proposals.

#### **Summary of the DEC Program:**

- Building on Texas' successful REC program, the DEC program is narrowly focused to address a specific market and reliability need. Its parameters can be quickly modified as needed to achieve evolving dispatchability targets over time.
- The DEC program will not impose a significant administrative or operational burden on retail entities, energy producers or ERCOT.
- The DEC program could be implemented in 2022 without delays for ERCOT software upgrades, improving ramping capabilities and reserve margins in 2023 and beyond.
- DEC revenues will only go to fast-ramping dispatchable resources, not to older thermal plants or renewables that cannot meet these specific reliability ramping needs. Since few of these resources exist in ERCOT to date, this will directly spur the immediate development and construction of new thermal and battery resources that will actively participate in the ERCOT market and will introduce state-of-the-art technology to ensure the highest levels of reliability at lowest cost.
- The DEC program will be clear and transparent, with minimal distorting effects upon energy market prices and few opportunities for market power abuse.
- The DEC proposal satisfies the Dispatchable Generation requirement of Utilities Code §39.159 as enacted by SB 3, Section 18.

Unlike other proposals, DEC's give the highest likelihood of solving the system need for immediate investment in new dispatchable generation while preserving low costs to consumers through the use of a proven, made in Texas, self-regulating market mechanism.

#### **DEC Program Market Signals:**

##### **Thermal Generation Resources**

- Technologies that allow for fast deployment across the market
- State of the art technology that meet  $\leq 5$  minute ramping requirements
- Technologies with limited/no water use and market-leading, highly efficient heat rates

- Fuel diversification across multiple sources to spread risk and ensure future-proof investments that can be run using natural gas, distillate/diesel and eventually hydrogen
- Energy Storage Resources
- Duration minimum requirements that match the planned ECRS 2-hour minimum for Energy Storage participation proposed by ERCOT
  - Technology and duration that complies with Commissioner McAdams' proposed Interconnection Process acceleration, which mandates a minimum 2-hour duration for energy storage resources
  - Fuel Diversification to spread risk and ensure future-proof investments. Dispatchable multi-hour energy storage resources provide a consumer hedge against possibly volatile hydrocarbon prices and avoid reliance on a single fuel exposure by converting excess system off-peak generation into a dispatchable product valued by the market.

Commissioner McAdams' DEC Proposal provides all stakeholders and capital sources with a very clear outline of the resources and attributes most valued by ERCOT's successful market construct, which has led to billions of dollars in investment and one of the largest, most liquid and transparent electricity trading markets, globally. Given the continued rapid growth of the Texas economy, providing clear direction *ahead* of waiting for crisis-driven market signals is the most prudent and cost-effective path for all constituents. The DEC Proposal also provides a guidepost to ensuring the rapid adoption and integration of the newest technologies as market solutions.

## CONCLUSION

Eolian appreciates the opportunity to provide these comments on Commissioner McAdams' memorandum and looks forward to working with the Commission and other interested parties on these issues.

Respectfully submitted,

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